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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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THE LAW OFFICE OF KIRK D. WILLIAMS 1234 S. OGDEN ST. DENVER, CO 80210			EXAMINER NGO, NGUYEN HOANG	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. ✓ 10/721,939	Applicant(s) MAMILLAPALLI ET AL.	
	Examiner Nguyen Ngo	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-16, 18-26 and 28-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 and 36 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-14, 18-24, 28-32, 34, 37, 38 and 40 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 15, 16, 25, 26, 33 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is in response to the amendment of 08/29/2005. All changes made to the claims have been entered. Accordingly claims 1-4, 6-16, 18-26, and 28-40 is currently pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1, 13, 23, and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 13, 23, and 37, it is not clear what exactly is meant by one or more of the plurality of nodes consisting of less than all of the plurality of nodes. Does it mean a specific group of plurality of nodes from a greater total plurality of nodes that receive a multicast message, or does it mean something else? This limitation is very vague and indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Lo et al. (U.S Patent No. 6,122,483), hereinafter referred to as Lo.

Regarding claim 11, Lo discloses a method of multicast messaging comprising;

a specified group ID (of a first portion 202A of figure 2) for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (receiving a multicast message sent to a plurality of nodes (204A-204D of figure 3) by a sender (NCC of figure 3), the multicast message including a multicast address (group ID) corresponding to the plurality of nodes, col4 lines 29-30 and col4 lines 38-44) and is further shown from figures 1 and 3. Lo further discloses of a second portion 202B that identifies whether the message is one that is for one subscriber unit (immediate ack) or whether it is a multicast message for a group of subscriber units (delayed ack)(an indication (type 202B) of whether or not to delay acknowledgment of the multicast message being distinct from the multicast address (group ID 202A), col5 lines 40-45).

that if the subscriber unit processes the message and determines that it is a multicast page, the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delaying acknowledgment of the multicast message in response to the indication identifying (Type 202B) to delay acknowledgement of the multicast message, col6 lines 30-32).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 2, 7, 9, 10, 12, 13, 14, 19, 21, 22, 23, 24, 29, 31, 32, 34, 37, 38, and 40 are rejected under 35 U.S.C. 103(a) as being anticipated by Lo et al. (US 6,122,483), in view of Boivie (US 6,415,312), hereinafter referred to as Lo and Boivie.

Regarding claim 1, Lo discloses a method for multicast messaging (a method for distributing information) comprising;

transmitting multicast messages to a select group of subscriber units and to receive an acknowledge signal responses from the select group of subscriber units (identifying one or more of a plurality of nodes to acknowledge a multicast message, col4 lines 21-24).

of a specified group ID (multicast address) for the select group to be transmitted with the multicast message and that the specified units with the select group ID are operable to respond (sending the multicast message to the plurality of nodes, the multicast message including an indication of said one or more of the plurality of nodes to acknowledge the multicast message, col4lines 29-30 and col4 lines 38-44). Lo further discloses from 202 of figure 2, of the multicast communication signal including a first portion 202A that includes an ID that identifies the intended recipients of the message (the multicast address, col5 lines 30-35) and a second portion 202B that identifies whether the message is one that is for one subscriber unit or whether it is a multicast page that requires processing steps to delay the transmission of an acknowledgement signal (wherein the multicast address (group ID 202A of figure 2) is distinct from the indication (type of acknowledgement 202B of figure 2) of said one or more of the plurality of nodes to acknowledge the multicast message, col5 lines 40-45 and col6 lines 45-52 and 202B of figure 2).

Lo however is silent in disclosing the specific limitations of having the multicast message including a multicast address corresponding to the plurality of nodes, said one or more of the plurality of nodes consisting of less than all of the plurality of nodes and having the multicast message being a non-broadcast address. Lo however discloses that there is a need to deliver multicast messages that also minimizes the consumption of valuable channel resources and thus provides the motivation to efficiently multicast a message in a manner that reserves channel resources.

Boivie further discloses a reliable multicast method for small groups and teaches from figure 1, of transmitting a multicast datagram from node A to nodes B, C, and D using information that intermediate nodes can use to deliver the packet to the desired destinations (multicast message address is a non-broadcast message address, col3 lines 5-10) and further discloses that the multicast datagram includes routing information that contains the ID for nodes B, C, and D (the multicast message including a multicast address (routing information) corresponding to the plurality of nodes, said one or more of the plurality of nodes consisting of less than all of the plurality of nodes (nodes B, C and D which is a small group of nodes from a plurality of nodes as seen in figure 1), col3 lines 15-35).

It would thus be obvious to a person skilled in the art to incorporate the method of transmitting a multicast message for a small group of nodes as disclosed by Boivie into the method for multicast messaging and acknowledgment as disclosed by Lo to efficiently reserve channel resources. Instead of broadcasting the multicast signal as disclosed by Lo, one may efficiently use channel resources by multicasting the message to a specific number of nodes of a group as disclosed by Boivie.

Regarding claim 2, the combination of Lo and Boivie discloses all the limitations of claim 2, more specifically, Lo discloses the communication signal (multicast message) also includes a second portion that identifies whether the message is one that is for one

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subscriber unit or whether it is a multicast message for a group of subscriber units (multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge, col6 lines 30-32). It is further seen from figure 202 of figure 2, of a multicast signal including a first portion 202A that includes an ID that identifies the intended multicast recipients (multicast address that is distinct, col5 line30-35) and a second portion 202B to determine if there is an immediate or delayed acknowledgement (indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-45 and col6 lines 46-51).

Regarding claim 7, Lo discloses a method of multicast messaging comprising;

a specified group ID (of a first portion 202A of figure 2) for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (receiving a multicast message sent to a plurality of nodes (204A-204D of figure 3) by a sender (NCC of figure 3), the multicast message including a multicast address (group ID) corresponding to the plurality of nodes, col4 lines 29-30 and col4 lines 38-44) and is further shown from figures 1 and 3. Lo further

discloses of a second portion 202B that identifies whether the message is one that is for one subscriber unit (immediate ack) or whether it is a multicast message for a group of subscriber units (delayed ack)(an indication of at least one designated acknowledgement node (nodes 204A-204D of figure 3) of the plurality of nodes (plurality of nodes (A-J as seen in figure 1), col5 lines 40-45). It is further shown with the combination of figures 1 and 3, that nodes A-D (seen from figure 3) are designated to be acknowledgement nodes designating from a plurality of nodes A-J (seen from figure 1) correlating to less than all of the plurality of nodes. As already stated, Lo discloses of a 202B portion of the multicast message that determines the type of acknowledgement (the indication of at least one designated acknowledgement node being distinct from the multicast address (202A group ID)).

that the subscriber units process the received communication signal enough to determine whether the corresponding message is for it (in response to identifying that the indication of at least one designated acknowledgement node includes the node, col5 lines 25-27 and col8 lines 34-47) and that the responding subscriber unit respond by sending an acknowledge message to the NCC (sending an acknowledgement message to the sender of the multicast message, col4 lines 8-14).

Lo is however silent in disclosing that the multicast address be a non-broadcast address. Lo however discloses that there is a need to deliver multicast messages that also minimizes the consumption of valuable channel resources and thus provides the

motivation to efficiently multicast a message in a manner that reserves channel resources.

Boivie further discloses a reliable multicast method for small groups and teaches from figure 1, of transmitting a multicast datagram from node A to nodes B, C, and D using information that intermediate nodes can use to deliver the packet to the desired destinations (multicast message address is a non-broadcast message address, col3 lines 5-10) and further discloses that the multicast datagram includes routing information that contains the ID for nodes B, C, and D (col3 lines 15-35).

It would thus be obvious to a person skilled in the art to incorporate the method of transmitting a multicast message for a small group of nodes as disclosed by Boivie into the method for multicast messaging and acknowledgment as disclosed by Lo to efficiently reserve channel resources. Instead of broadcasting the multicast signal as disclosed by Lo, one may efficiently use channel resources by multicasting the message to a specific number of nodes of a group from a plurality of nodes as disclosed by Boivie.

Regarding claim 9, the combination of Lo and Boivie discloses all the limitations of claim 9, more specifically, Lo discloses the communication signal (multicast message) also includes a second portion that identifies whether the message is one that is for one

subscriber unit or whether it is a multicast message for a group of subscriber units (multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge, col6 lines 30-32). It is further seen from figure 202 of figure 2, of a multicast signal including a first portion 202A that includes an ID that identifies the intended multicast recipients (multicast address that is distinct, col5 line30-35) and a second portion 202B to determine if there is an immediate or delayed acknowledgement (indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-45 and col6 lines 46-51).

Regarding claim 10, the combination of Lo and Boivie discloses all the limitations of claim 10, more specifically, Lo the indication whether to immediately acknowledge or delay acknowledgement of the multicast message. Lo further discloses that if the message is a multicast page and if the processing unit determines that the subscriber unit is within the select group for whom the message is intended, the processing unit takes steps to delay the transmission of an acknowledgement signal (corresponds to

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delay acknowledgement and the method comprising of delaying said sending the acknowledgement message, col6 lines 50-51).

Regarding claim 12, Lo discloses a method of multicast messaging comprising;

a specified group ID (of a first portion 202A of figure 2) for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (receiving a multicast message sent to a plurality of nodes (204A-204D of figure 3) by a sender (NCC of figure 3), the multicast message including a multicast address (group ID) corresponding to the plurality of nodes, col4 lines 29-30 and col4 lines 38-44) and is further shown from figures 1 and 3. Lo further discloses of a second portion 202B that identifies whether the message is one that is for one subscriber unit (immediate ack) or whether it is a multicast message for a group of subscriber units (delayed ack)(an indication (type 202B) of whether or not to delay acknowledgment of the multicast message being distinct from the multicast address (group ID 202A), col5 lines 40-45).

that if the subscriber unit processes the message and determines that it is a multicast page, the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delaying acknowledgment of the multicast message in response to the indication identifying (Type 202B) to delay acknowledgement of the multicast message, col6 lines 30-32).

Lo is however silent in disclosing that the multicast address be a non-broadcast address. Lo however discloses that there is a need to deliver multicast messages that also minimizes the consumption of valuable channel resources and thus provides the motivation to efficiently multicast a message in a manner that reserves channel resources.

Boivie further discloses a reliable multicast method for small groups and teaches from figure 1, of transmitting a multicast datagram from node A to nodes B, C, and D using information (multicast address) that intermediate nodes can use to deliver the packet to the desired destinations (multicast message address is a non-broadcast message address, col3 lines 5-10) and further discloses that the multicast datagram includes routing information that contains the ID for nodes B, C, and D (multicast address, col3 lines 15-35).

It would thus be obvious to a person skilled in the art to incorporate the method of transmitting a multicast message for a small group of nodes as disclosed by Boivie into the method for multicast messaging and acknowledgment as disclosed by Lo to efficiently reserve channel resources. Instead of broadcasting the multicast signal as disclosed by Lo, one may efficiently use channel resources by multicasting the message to a specific number of nodes of a group from a plurality of nodes as disclosed by Boivie.

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Regarding claim 13, Lo and Boivie discloses all the limitations as discussed with claim

1. It is noted that claim 13 simply refers to the apparatus of the method stated in claim

1.

Regarding claim 14, Lo and Boivie discloses all the limitations as discussed with claim

2. It is noted that claim 14 simply refers to the apparatus of the method stated in claim

2.

Regarding claim 17, Lo and Boivie discloses all the limitations as discussed with claim

5. It is noted that claim 17 simply refers to the apparatus of the method stated in claim

5.

Regarding claim 19, Lo and Boivie discloses all the limitations as discussed with claim

7. It is noted that claim 19 simply refers to the apparatus of the method stated in claim

7.

Regarding claim 21, Lo and Boivie discloses all the limitations as discussed with claim

9. It is noted that claim 21 simply refers to the apparatus of the method stated in claim

9.

Regarding claim 22, Lo and Boivie discloses all the limitations as discussed with claim 10. It is noted that claim 22 simply refers to the apparatus of the method stated in claim 10.

Regarding claim 23, Lo and Boivie discloses all the limitations as discussed with claim 1. It is noted that claim 23 simply refers to the computer-readable medium of the method stated in claim 1.

Regarding claim 24, Lo and Boivie discloses all the limitations as discussed with claim 2. It is noted that claim 24 simply refers to the computer-readable medium of the method stated in claim 2.

Regarding claim 29, Lo and Boivie discloses all the limitations as discussed with claim 7. It is noted that claim 27 simply refers to the computer-readable medium of the method stated in claim 7.

Regarding claim 31, Lo and Boivie discloses all the limitations as discussed with claim 9. It is noted that claim 31 simply refers to the computer-readable medium of the method stated in claim 9.

Regarding claim 32, Lo and Boivie discloses all the limitations as discussed with claim 10. It is noted that claim 32 simply refers to the computer-readable medium of the method stated in claim 10.

Regarding claim 34, Lo and Boivie discloses all the limitations of claim 34 as discussed with claim 1. It should be obvious to a person skilled in the art that one or more of the plurality of nodes can include two of the plurality of nodes.

Regarding claim 37, Lo discloses a method of multicast messaging comprising;

a specified group ID (of a first portion 202A of figure 2) for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (identifying one or more of a plurality of nodes to acknowledge a message, the message including an address corresponding to the plurality of nodes (group ID 202A), col4 lines 29-30 and col4 lines 38-44) and is further shown from figures 1 and 3.

of a second portion 202B that identifies whether the message is one that is for one subscriber unit (immediate ack) or whether it is a multicast message for a group of subscriber units (delayed ack)(an indication (type 202B) of whether or not to delay acknowledgment of the multicast message being distinct from the multicast address (group ID 202A), col5 lines 40-45). Lo further disclose that if the subscriber unit processes the message and determines that it is a multicast page, the subscriber unit allows a random period to expire before transmitting the acknowledgement signal

(sending the message to the plurality of nodes, the message including an indication of said one or more of the plurality of nodes to acknowledge the message; wherein with the address is distinct (202A group ID) from the indication (202B type of ack) of said one or more of the plurality of nodes, col6 lines 30-32).

Lo however is silent in disclosing the specific limitations of having the multicast message including a multicast address corresponding to the plurality of nodes, said one or more of the plurality of nodes consisting of less than all of the plurality of. Lo however discloses that there is a need to deliver multicast messages that also minimizes the consumption of valuable channel resources and thus provides the motivation to efficiently multicast a message in a manner that reserves channel resources.

Boivie further discloses a reliable multicast method for small groups and teaches from figure 1, of transmitting a multicast datagram from node A to nodes B, C, and D using information that intermediate nodes can use to deliver the packet to the desired destinations (multicast message address, col3 lines 5-10) and further discloses that the multicast datagram includes routing information that contains the ID for nodes B, C, and D (the multicast message including a multicast address (routing information) corresponding to the plurality of nodes, said one or more of the plurality of nodes consisting of less than all of the plurality of nodes (nodes B, C and D which is a small group of nodes from a plurality of nodes as seen in figure 1), col3 lines 15-35).

It would thus be obvious to a person skilled in the art to incorporate the method of transmitting a multicast message for a small group of nodes as disclosed by Boivie into the method for multicast messaging and acknowledgment as disclosed by Lo to efficiently reserve channel resources. Instead of broadcasting the multicast signal as disclosed by Lo, one may efficiently use channel resources by multicasting the message to a specific number of nodes of a group as disclosed by Boivie.

Regarding claim 38, the combination of Lo and Boivie discloses all the limitations of claim 38, more specifically, Lo discloses the communication signal (multicast message) also includes a second portion that identifies whether the message is one that is for one subscriber unit or whether it is a multicast message for a group of subscriber units (multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge, col6 lines 30-32). It is further seen from figure 202 of figure 2, of a multicast signal including a first portion 202A that includes an ID that identifies the intended multicast recipients (multicast address that is distinct, col5 line30-35) and a

second portion 202B to determine if there is an immediate or delayed acknowledgement (indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-45 and col6 lines 46-51).

Regarding claim 40, Lo and Boivie discloses all the limitations of claim 40 as discussed with claim 37. It should be obvious to a person skilled in the art that one or more of the plurality of nodes can include two of the plurality of nodes.

8. Claims 6, 8, 18, 20, 28, and 30 are rejected under 35 U.S.C. 103(a) as being anticipated by Lo et al. (US 6,122,483), in view of Boivie (US 6,415,312), in further view of Dunning et al. (US 6,760,307), hereinafter referred to as Lo, Boivie, and Dunning.

Regarding claim 6, Lo and Boivie discloses all the limitations as discusses with claim 1 yet is silent in the specific limitation of identifying the multicast message and all previously sent messages as being acknowledged. Lo also discloses that in certain communication systems, acknowledgment would result in too many subscriber units attempting to respond to a network control center and would consume significant channel resources. Lo thus provides the motivation to minimize the consumption of valuable channel resources and reduce latency.

Dunning however discloses of a technique known as Go Back n ARQ that is well known in the art to a person skilled in the art. The Go Back n ARG using sequentially numbered packets in which several successive packets are sent up to the limit of the

receive buffer, but without waiting for the return of the acknowledgement. The node then sends the request numbers (acknowledgement signal) to the transmitting node. The effect of a given request number is to acknowledge all packets prior to the requested packet (identifying the multicast message and all previously sent messages as being acknowledged by the plurality of nodes, col2 lines 5-28) and further discloses that this technique may be used for an unlimited sized network (multicast message from a node of said one or more of the plurality of nodes and acknowledged by the plurality of nodes, col4 lines 1-5 and col5 lines 62-67).

It will thus be obvious to a person skilled in the art to incorporate the method for distributing and acknowledging multicast messages disclosed by Lo with the Go Back n ARG protocol disclosed by Dunning, to minimize channel resources, and reduce latency and processing times related to acknowledging packets.

Regarding claim 8, Lo and Boivie discloses all the limitations as discusses with claim 7 yet is silent in the specific limitation of having the acknowledgement message acknowledge at least one other message than the multicast message. Lo also discloses that in certain communication systems, acknowledgment would result in too many subscriber units attempting to respond to a network control center and would consume significant channel resources. Lo thus provides the motivation to minimize the consumption of valuable channel resources and reduce latency.

Dunning however discloses of a technique known as Go Back n ARQ that is well known in the art to a person skilled in the art. The Go Back n ARG using sequentially numbered packets in which several successive packets are sent up to the limit of the receive buffer, but without waiting for the return of the acknowledgement. The node then sends the request numbers (acknowledgement signal) to the transmitting node. The effect of a given request number is to acknowledge all packets prior to the requested packet (acknowledgement message acknowledge at least one other message than the multicast message, col2 lines 5-28).

It will thus be obvious to a person skilled in the art to incorporate the method for distributing and acknowledging multicast messages disclosed by Lo with the Go Back n ARG protocol disclosed by Dunning, to minimize channel resources, and reduce latency and processing times related to acknowledging packets.

Regarding claim 18, Lo discloses all the limitations as discussed with claim 6. It is noted that claim 18 simply refers to the apparatus of the method stated in claim 6.

Regarding claim 20, Lo discloses all the limitations as discussed with claim 8. It is noted that claim 20 simply refers to the apparatus of the method stated in claim 8.

Regarding claim 28, Lo discloses all the limitations as discussed with claim 6. It is noted that claim 28 simply refers to the computer-readable medium of the method stated in claim 6.

Regarding claim 30, Lo discloses all the limitations as discussed with claim 8. It is noted that claim 30 simply refers to the computer-readable medium of the method stated in claim 8.

Response to Arguments

9. The applicant's arguments filed 08/29/2005 have been fully considered but they are not persuasive.

10. The applicant submits that Lo does not teach that the address of the message is distinct from the indication of whether to acknowledge immediately or delay acknowledgement. As discussed with claim 1, Examiner posits that it is not unreasonable to interpret 202 of figure 2 as disclosed by Lo to have to separate fields in the multicast message. Portion 202A being a group ID that identifies the intended recipients of the multicast message (correlating to multicast or unicast destination address) and portion 202B being a type of acknowledgement field (delay or immediate) depending on the indication in field 202B. Examiner interprets the Group ID field (202A) to correlate to the multicast address, which is distinct from the Type of acknowledgement field (202B) correlating to the indication of one or more nodes to acknowledge the multicast message. Examiner interprets the limitation of an indication

of one or more nodes to acknowledge the multicast message to correlate to being an indication of how one node may acknowledge the multicast message (immediately, indication of one of the plurality of nodes to acknowledge the message) or how a plurality of nodes may acknowledge the multicast message (delayed, indication of more of the plurality of nodes to acknowledge the message).

Allowable Subject Matter

11. Claim 35 and 36 are allowed.

12. Claims 3, 4, 15, 16, 25, 26, 33 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. These claims are allowable due to the further limitations of indicating immediate acknowledgement if the multicast message is the first message of a message window and indicating delayed acknowledgement if the multicast message is not the first message of the messaging window.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Hundscheidt et al. (US 2002/0085506), Subgroup Multicasting In a Communication Network.

b) Kristol et al. (US 5541927), Method Of Multicasting.

c) Gleeson et al. (US 5959989), System For Efficient Multicast Distribution In a VLAN Environment.

d) Suzuki (US 6735177), Multicast Communication Device And Method.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.N.

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PRIMARY EXAMINER
SPE / 2663

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